

IN THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A heart rate measuring device to be attached around a user's wrist, the device comprising:

an attachment device fixed to a measuring unit;

an inner surface arranged to be in contact with skin of the wrist to which the device is attached;

an outer surface other than the inner surface;

an electrically conductive inner structure provided on the inner surface of the measuring device and comprising at least one electrode adapted to be in contact with the skin of the wrist to which the device is attached;

an electrically conductive outer structure comprising at least one electrode adapted to be in contact with the user's other hand and electrically isolated from the electrically conductive inner structure;

a measuring unit to which the electrically conductive outer structure and inner structure are connected for heart rate measurement, wherein

the electrically conductive outer structure of the measuring device extends at least to opposite sides of the wrist to which the device is attached, the electrically conductive outer structure comprises at least a first electrode and a second electrode on the outer surface of the measuring device, on opposite sides of the wrist to which the measuring device is attached, which first electrode and second electrode the user is to touch with separate fingers of the user's other hand from opposite directions of the wrist to which the device is attached,

wherein the electrically conductive outer structure comprises at least two electrodes, which are on different sides of the wrist to which the device is attached, and

at least one of the electrodes being connected to the measuring unit with a wire inside the wristband.

2. (Previously Presented) A measuring device according to claim 1, wherein the electrically conductive outer structure forms a uniform electrode on the outer surface of the measuring device, which electrode the user is to touch with separate fingers of the user's other hand at least from opposite directions in relation to the wrist to which the device is attached.

3. (Previously Presented) A measuring device according to claim 1, wherein the electrically conductive outer structure forms a uniform electrode extending on part of the outer surface of the measuring device to opposite sides of the wrist to which the device is attached, which electrode the user is to touch with separate fingers of the user's other hand at least from opposite directions in relation to the wrist to which the device is attached.

4. (Previously Presented) A measuring device according to claim 1, wherein the electrically conductive outer structure comprises at least two electrodes which are connected together with a wire inside the wristband.

5. (Cancelled)

6. (Currently Amended) A heart rate measuring device to be attached around a user's wrist, the device comprising:

an attachment device fixed to a measuring unit;

an inner surface arranged to be in contact with skin of the wrist to which the device is attached;

an outer surface other than the inner surface;

an electrically conductive inner structure provided on the inner surface of the measuring device and comprising at least one electrode adapted to be in contact with the skin of the wrist to which the device is attached;

an electrically conductive outer structure comprising at least one electrode adapted to be in contact with the user's other hand and electrically isolated from the electrically conductive inner structure;

a measuring unit to which the electrically conductive outer structure and inner structure are connected for heart rate measurement, wherein

the electrically conductive outer structure of the measuring device extends at least to opposite sides of the wrist to which the device is attached, the electrically conductive outer structure comprises at least a first electrode and a second electrode on the outer surface of the measuring device, on opposite sides of the wrist to which the measuring device is attached, which first electrode and second electrode the user is to touch with separate fingers of the user's other hand from opposite directions of the wrist to which the device is attached
~~A measuring device according to claim 1,~~ wherein the electrically conductive inner structure comprises at least two electrodes on the inner surface of the measuring device and on different sides of the wrist to which the device is attached; and

at least one of the electrodes being connected to the measuring unit with a wire inside the wristband.

7. (Original) A measuring device according to claim 1, wherein the electrically conductive outer structure is made of electrically conductive plastic.

8. (Original) A measuring device according to claim 1, wherein the electrically conductive outer structure is made of electrically conductive metal.

9. (Currently Amended) A method for manufacturing a heart rate measuring device to be attached around a user's wrist with an attachment device fixed to a measuring unit, the method comprising:

providing an electrically conductive inner structure on an inner surface of the measuring device, the inner surface being in contact with skin of the wrist to which the device is attached and at least part of the electrically conductive inner structure being adapted to function as an electrode adapted to be in contact with skin of the wrist to which the device is attached;

providing an electrically conductive outer structure on an outer surface of the measuring device to provide a first electrode and a second electrode adapted to be in contact with the user's other hand, the electrically conductive outer structure being electrically isolated from the electrically conductive inner structure, the outer surface being a measuring device surface other than the inner surface;

providing a measuring unit comprising a signal processing device; and

connecting the electrically conductive outer structure and inner structure to the signal processing device of the measuring unit for heart rate measurement, the method further comprising:

producing at least one electrode of the electrically conductive outer structure on the outer surface of the measuring device, on opposite sides of the wrist to which the device is attached, wherein the electrically conductive outer structure comprises at least two electrodes, which are on different sides of the wrist to which the device is attached; and

connecting at least one of the electrodes to the measuring unit with a wire inside the wristband.

10. (Currently Amended) A method for measuring heart rate, in which method a measuring device is attached around a user's wrist, the method comprising:

bringing the user's wrist to which the measuring device is attached into contact with an electrically conductive inner structure provided on an inner surface of the measuring device that sets against skin of the wrist to which the device is attached;

bringing the user's other hand into contact with an electrically conductive outer structure provided on an outer surface of the measuring device on the wrist to which the measuring device is attached, the outer surface being a measuring device surface other than the inner surface; and

connecting a heart rate signal from the user via the electrically conductive outer structure and inner structure to the measuring unit for heart rate measurement, the method further comprising:

bringing the user's other hand into contact with the device by having the user touch with the fingers of the user's other hand at least a first electrode and a second electrode of the electrically conductive outer structure on the outer surface of the measuring device and on opposite sides of the wrist to which the device is attached, at least one of the electrodes being connected to the measuring unit with a wire inside the wristband, wherein the electrically conductive outer structure comprises at least two electrodes, which are on different sides of the wrist to which the device is attached.

11. (New) A measuring device according to claim 6, wherein the electrically conductive outer structure forms a uniform electrode on the outer surface of the measuring device, which electrode the user is to touch with separate fingers of the user's other hand at least from opposite directions in relation to the wrist to which the device is attached.

12. (New) A measuring device according to claim 6, wherein the electrically conductive outer structure forms a uniform electrode extending on part of the outer surface of the measuring device to opposite sides of the wrist to which the device is attached, which electrode the user is to touch with separate fingers of the user's other hand at least from opposite directions in relation to the wrist to which the device is attached.

13. (New) A measuring device according to claim 6, wherein the electrically conductive outer structure comprises at least two electrodes which are connected together with a wire inside the wristband.

14. (New) A measuring device according to claim 6, wherein the electrically conductive outer structure is made of electrically conductive plastic.

15. (New) A measuring device according to claim 6, wherein the electrically conductive outer structure is made of electrically conductive metal.

16. (New) A method for manufacturing a heart rate measuring device to be attached around a user's wrist with an attachment device fixed to a measuring unit, the method comprising:

providing an electrically conductive inner structure on an inner surface of the measuring device, the inner surface being in contact with skin of the wrist to which the device is attached and at least part of the electrically conductive inner structure being adapted to function as an electrode adapted to be in contact with skin of the wrist to which the device is attached;

providing an electrically conductive outer structure on an outer surface of the measuring device to provide a first electrode and a second electrode adapted to be in contact with the user's other hand, the electrically conductive outer structure being electrically isolated from the electrically conductive inner structure, the outer surface being a measuring device surface other than the inner surface;

providing a measuring unit comprising a signal processing device; and

connecting the electrically conductive outer structure and inner structure to the signal processing device of the measuring unit for heart rate measurement, the method further comprising:

producing at least one electrode of the electrically conductive outer structure on the outer surface of the measuring device, on opposite sides of the wrist to which the device is attached, wherein the electrically conductive inner structure comprises at least two electrodes on the inner surface of the measuring device and on different sides of the wrist to which the device is attached; and

connecting at least one of the electrodes to the measuring unit with a wire inside the wristband.

17. (New) A method for measuring heart rate, in which method a measuring device is attached around a user's wrist, the method comprising:

bringing the user's wrist to which the measuring device is attached into contact with an electrically conductive inner structure provided on an inner surface of the measuring device that sets against skin of the wrist to which the device is attached;

bringing the user's other hand into contact with an electrically conductive outer structure provided on an outer surface of the measuring device on the wrist to which the measuring device is attached, the outer surface being a measuring device surface other than the inner surface; and

connecting a heart rate signal from the user via the electrically conductive outer structure and inner structure to the measuring unit for heart rate measurement, the method further comprising:

bringing the user's other hand into contact with the device by having the user touch with the fingers of the user's other hand at least a first electrode and a second electrode of the electrically conductive outer structure on the outer surface of the measuring device and on opposite sides of the wrist to which the device is attached, at least one of the electrodes being connected to the measuring unit with a wire inside the wristband, wherein the electrically conductive inner structure comprises at least two electrodes on the inner surface of the measuring device and on different sides of the wrist to which the device is attached.